



This copy is a reprint which includes current
pages from Changes 1 through 3.

PYROTECHNIC SIMULATORS

OPERATOR'S MANUAL

Supersedes TM 9-1370-207-10, 30 December 1983

Approved for public release;
distribution is unlimited.

Headquarters, Department of the Army

MARCH 1991

WARNINGS
PYROTECHNICS CONTAIN HAZARDOUS MATERIALS.

DON'T HANDLE IF DAMAGED.
HANDLE CAREFULLY, AND, IF SITUATION PERMITS,
WEAR FULL HELMET AND GLOVES.
KEEP AWAY FROM FIRE AND HOT SURFACES.
AIM AWAY FROM FACE, BODY, AND FRIENDLY TROOPS.

CHECK WIND DIRECTION TO AVOID FIRE, SMOKE
INHALATION OR IRRITATION, WITH ALL PYROTECHNIC ITEMS.

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Change)
)
No. 3)

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, DC, 6 November 1992

**PYROTECHNIC SIMULATORS
OPERATOR'S MANUAL**

TM 9-1370-207-10, 31 March 1991, is changed as follows:

1. Remove old pages and insert new pages as indicated below. New or changed material is indicated by a vertical bar adjacent to the identification number.

Remove pages

None
1 and 2
45 thru 47 (48 blank)

Insert pages

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1 and 2
45 thru 49 (50 blank)

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By Order of the Secretary of the Army:

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Chief of Staff

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Change)
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No. 2)

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, DC, 15 January 1992

**PYROTECHNIC SIMULATORS
OPERATOR'S MANUAL**

TM 9-1370-207-10, 31 March 1991, in changed follows:

1. Remove old pages and insert new pages as indicated below. New or changed material indicated by a vertical bar in the margin of the pep.

Remove pages
19 and 20

Insert pages
19 and 20

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Change)
)
No. 1)

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, DC, 10 December 1991

**PYROTECHNIC SIMULATORS
OPERATOR'S MANUAL**

TM 9-1370-207-10, 31 March 1991, is changed as follows:

1. Remove old pages and insert new pages as indicated below. New or changed material is indicated by a vertical bar in the margin of the page.

Remove pages
33 and 34

Insert pages
33 and 34

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LIST OF EFFECTIVE PAGES

INSERT LATEST CHANGED PAGES.
DESTROY SUPERSEDED PAGES.

**TOTAL NUMBER OF PAGES IN THIS PUBLICATION IS 55
CONSISTING OF THE FOLLOWING:**

PAGE NO.	*CHANGE NO.	PAGE NO.	*CHANGE NO.
Cover	0	34	1
Inside Cover	0	35	0
A	3	36 blank	0
B blank	3	37 thru 44	0
1	3	45 thru 47	3
2 thru 5	0	48 blank	3
6 blank	0	49	3
7 thru 18	0	50 blank	3
19	2	Authentication Page	0
20 thru 33	0		

* Zero indicates an original page.

Change 3 A (B blank)

Technical Manual

No. 9-1370-207-10

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DEPARTMENT OF THE ARMY
Washington, DC, 31 March 1991

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* This manual supersedes TM 9-1370-207-10, 30 December 1983

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Change 3 1

**DISPOSING
OF
DUDS**

**FOLLOW PRESCRIBED WAITING TIME OUTLINED
IN PARAGRAPH CONCERNING ITEM IN USE.**

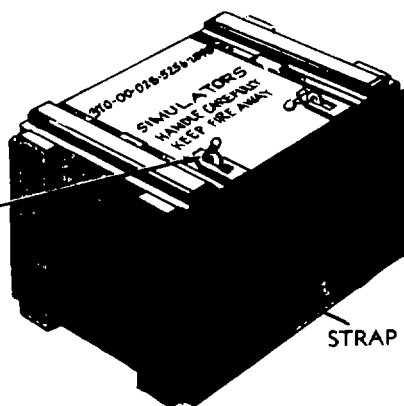
DO NOT TOUCH THE DUD!
MARK LOCATION OF DUD FOR EXPLOSIVE
ORDNANCE DISPOSAL (EOD) PERSONNEL.
CALL EOD FOR DISPOSAL.

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AR 5256



UNPACKING

HASP
AND SEAL



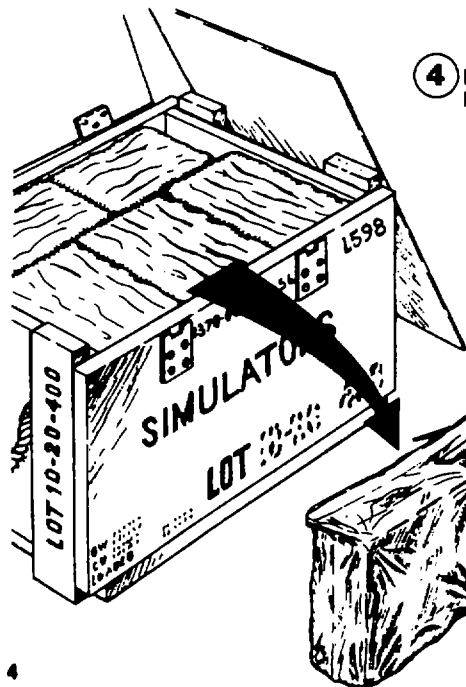
CHAPTER I

CAUTIONS KEEP BOXES SEALED.

DUDS OR IMPROPER FUNCTIONING
COULD OCCUR IF EXPOSED TO
MOISTURE.

OPEN JUST BEFORE USE.

- (1) Cut steel strapping carefully with metal shears to avoid springback. Remove and dispose of metal straps.
- (2) Cut metallic seal with pliers. Discard seal.
- (3) Turn hasp catch and open hasps on hinge-and-hasps boxes, or pull out on spring-latch to release on spring-latch boxes.



4 LIFT BOX TOP AND REMOVE TOP FILLER. REMOVE BARRIER BAG.

5 CUT BARRIER BAG OPEN ALONG THE EDGE WITH MOST FREE AREA, CUTTING AS CLOSE TO SEALED EDGE AS POSSIBLE.

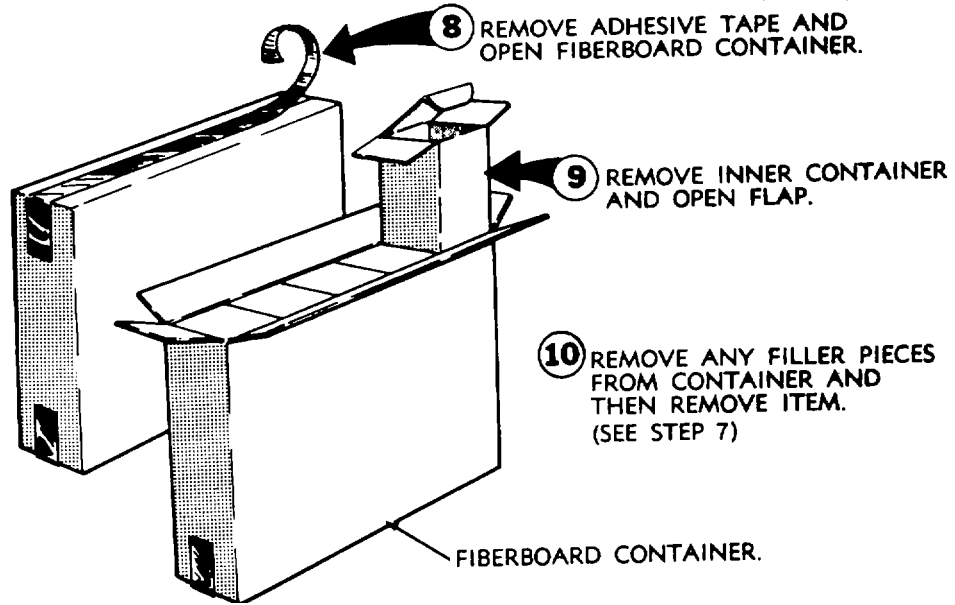
6 REMOVE AND OPEN PAPERBOARD CARTON.

7 REMOVE ITEMS. IF ALL ITEMS ARE NOT REMOVED, CLOSE AND RESEAL CARTON WITH ADHESIVE TAPE.

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CONTINUE WITH FOLLOWING STEPS FOR BOOBY-TRAP SIMULATORS M117, M118, AND M119 ONLY



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CHAPTER II

SECTION (1)
EXPLOSIVE DETONATION SIMULATOR M80

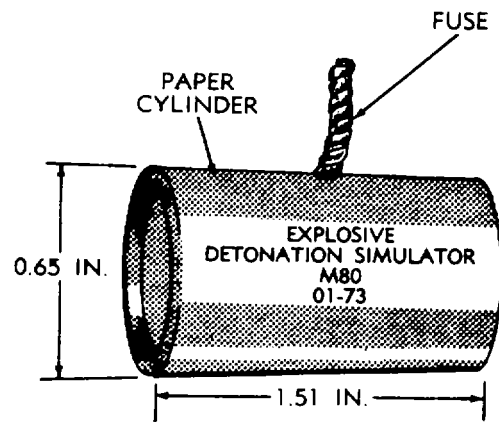
WARNINGS

DON'T

- TAMPER WITH FUSE.
- USE M1 OR M2 BLASTING FUSE IGNITERS
WITH M80 SIMULATOR.
- TAMPER WITH ANY SIMULATOR. AR 5260 7

DESCRIPTION

THE M80 SIMULATOR IS A PAPER CYLINDER CONTAINING THE CHARGE COMPOSITION AND IS USED TO SIMULATE RIFLE OR ARTILLERY FIRE, HAND GRENADES, BOOBYTRAPS, OR LAND MINES.



OPERATION

WARNING

THROW OR BACK OFF
IMMEDIATELY
AFTER IGNITING.

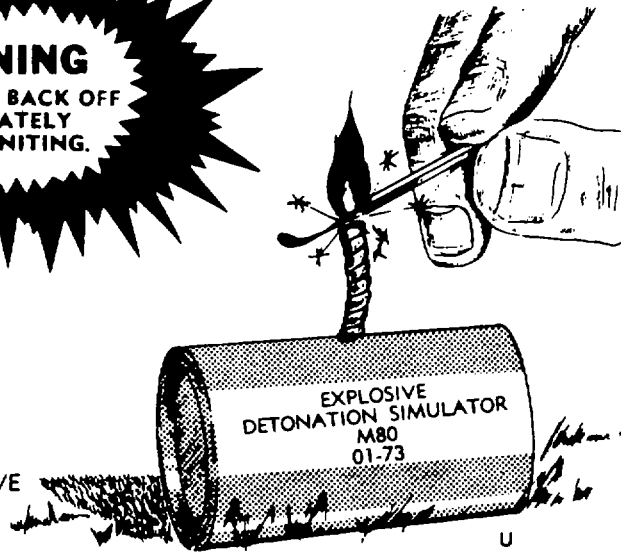
TO IGNITE IN PLACE

①

PLACE SIMULATOR
ON CLEARED GROUND.

②

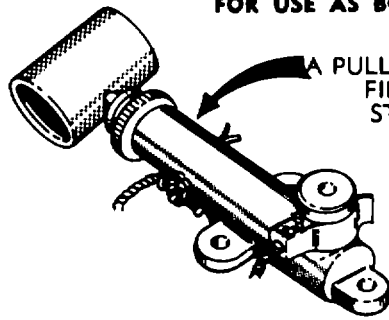
IGNITE WITH MATCH. MOVE
15 FEET AWAY FROM
SIMULATOR, AND FALL
TO GROUND.



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1

FOR USE AS BOOBYTRAP OR LANDMINE SIMULATORS



A PULL-TYPE, PULL-RELEASE TYPE, OR PRESSURE-TYPE FIRING DEVICE (TM9-1375-213-12) MAY BE SUBSTITUTED FOR FUSE. INSERT COUPLING BASE NIPPLE OR FIRING DEVICE INTO FUSE HOLE.

FOR LAND MINE SIMULATION INVOLVING PRESSURE-TYPE FIRING DEVICES, TRAINEES **MUST** WEAR COMBAT BOOTS.

WARNING IF M80 DOES NOT FIRE, WAIT 5 MINUTES.

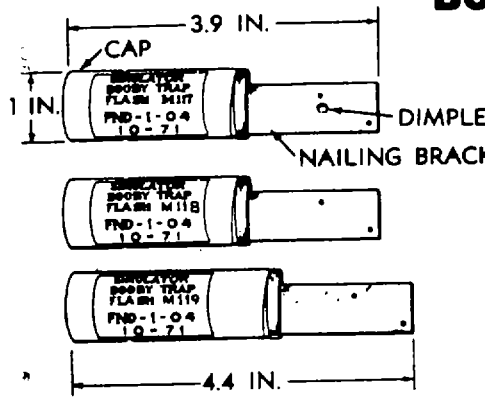
DUD - DO NOT TOUCH THE DUD!
MARK LOCATION OF DUD FOR EOD PERSONNEL.
CALL EOD FOR DISPOSAL.

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SECTION (2)

BOOBYTRAP SIMULATORS

DESCRIPTION

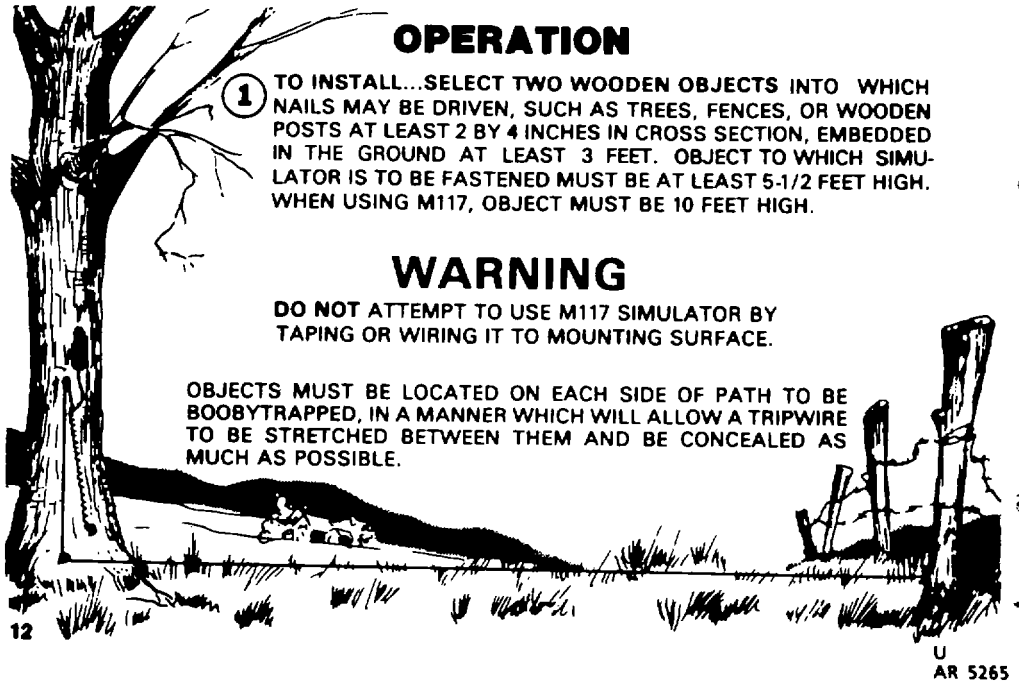


- Ⓐ FLASH, M117 (FLASH AND BANG)
(M117 HAS DIMPLE IN BRACKET
FOR NIGHT IDENTIFICATION)
- Ⓑ ILLUMINATING, M118
(28-SECOND DURATION FLAME)
- Ⓒ WHISTLING, M119
(2.5- TO 5-SECOND WHISTLE)

**ALL THREE TYPES HAVE
A TUBULAR BODY.**

**EACH TYPE IS ISSUED WITH A ROLL OF
TRIPWIRE, STAPLES, NAILS, AND EXTENSION SPRING**

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OPERATION

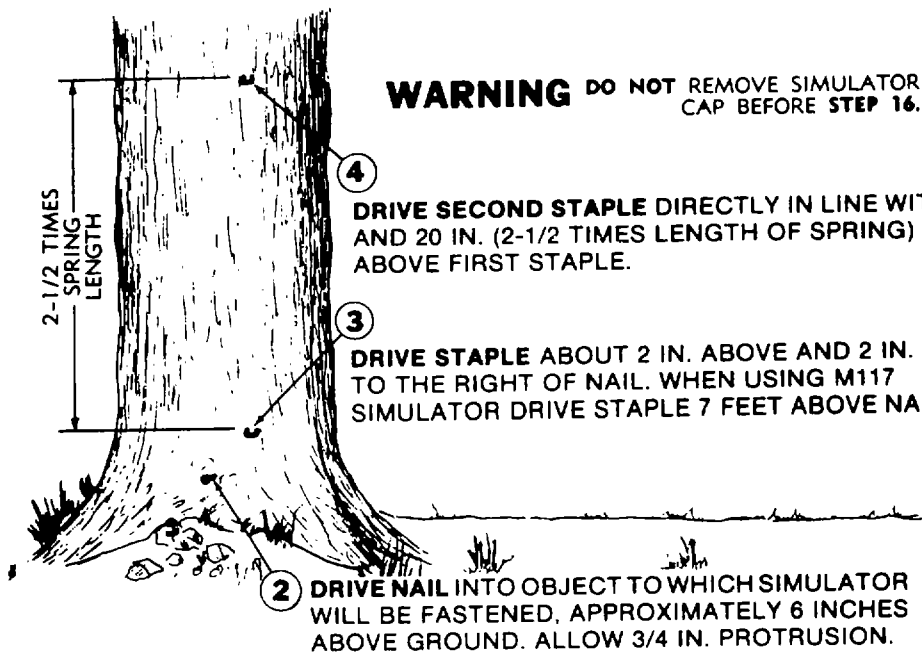
- 1 TO INSTALL...SELECT TWO WOODEN OBJECTS INTO WHICH NAILS MAY BE DRIVEN, SUCH AS TREES, FENCES, OR WOODEN POSTS AT LEAST 2 BY 4 INCHES IN CROSS SECTION, EMBEDDED IN THE GROUND AT LEAST 3 FEET. OBJECT TO WHICH SIMULATOR IS TO BE FASTENED MUST BE AT LEAST 5-1/2 FEET HIGH. WHEN USING M117, OBJECT MUST BE 10 FEET HIGH.

WARNING

DO NOT ATTEMPT TO USE M117 SIMULATOR BY TAPING OR WIRING IT TO MOUNTING SURFACE.

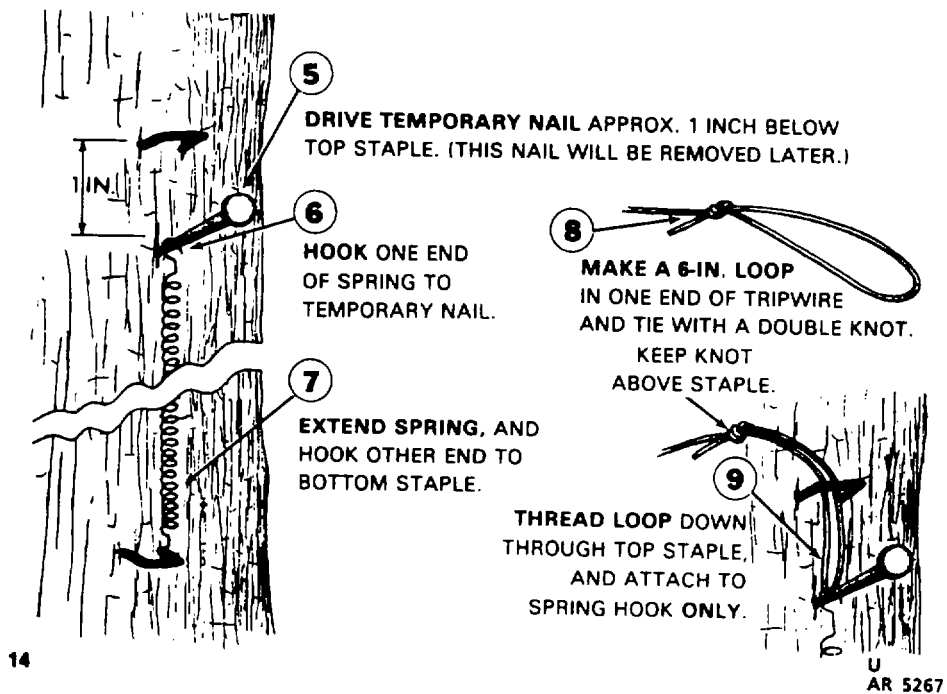
OBJECTS MUST BE LOCATED ON EACH SIDE OF PATH TO BE BOOBYTRAPPED, IN A MANNER WHICH WILL ALLOW A TRIPWIRE TO BE STRETCHED BETWEEN THEM AND BE CONCEALED AS MUCH AS POSSIBLE.

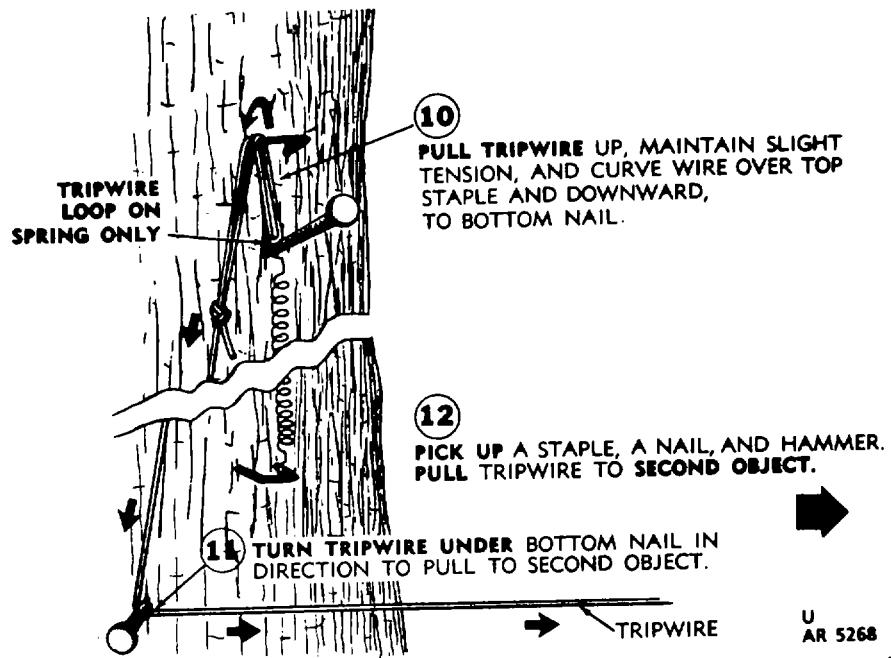
U
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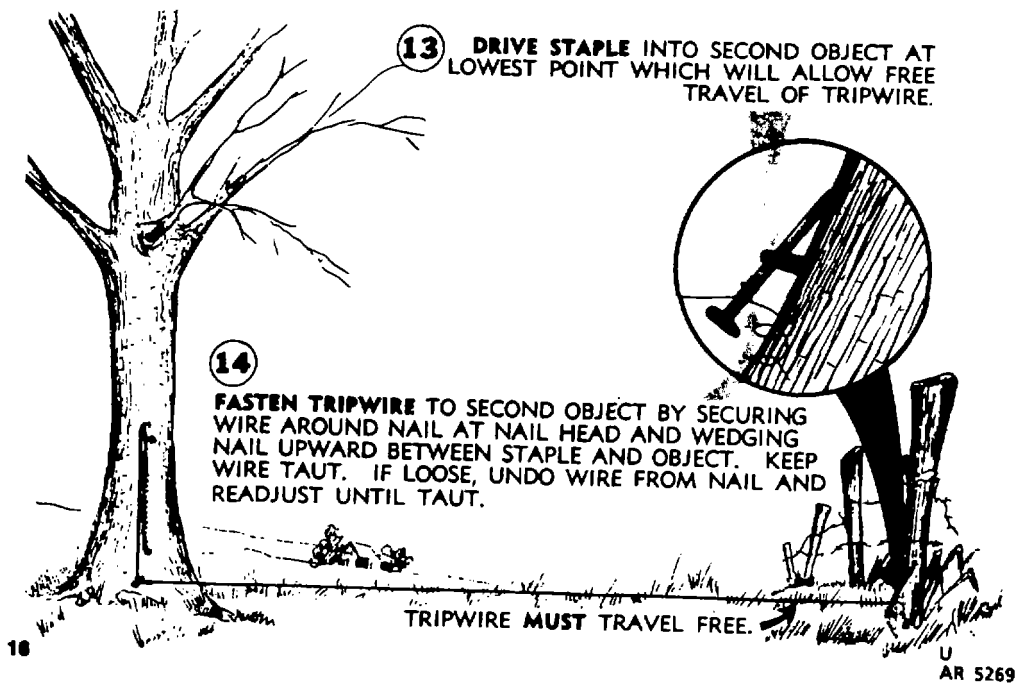
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13

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15



(15)

RETURN TO FIRST OBJECT AND GRADUALLY WORK TEMPORARY NAIL FREE WHILE CAREFULLY ALLOWING THE EXTENDED SPRING TO COMPRESS AGAINST THE TRIPWIRE LOOP ALONE.

THEN.....

CHECK ENTIRE SYSTEM...

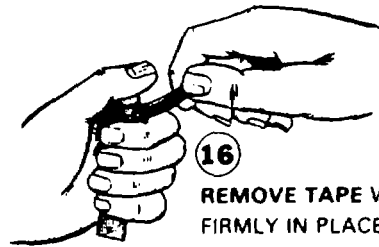
EXTENDED SPRING SHOULD NOW KEEP TRIPWIRE TAUT. MAKE SURE TRIPWIRE IS CONCEALED.

CLEAN GENERAL AREA. WHEN USING MI17 SIMULATOR, MAKE SURE THERE IS A 3-FOOT RADIUS CLEAR AREA AROUND SIMULATOR. PERSONNEL ARE SAFE AT A DISTANCE OF 6 FEET.

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AR 5270

WARNING

**DO NOT INITIATE ANY BOOBYTRAP
SIMULATOR WHILE HOLDING IN HAND**



**REMOVE TAPE WHILE HOLDING CAP
FIRMLY IN PLACE.**



**REMOVE CAP CAREFULLY AND MAKE
SURE PULL-CORD IS FREE OF CAP.**

**NAIL SIMULATOR IN POSITION
ABOVE SPRING SO THAT
PULL-CORD MAY BE
TIED TO SPRING.**



**CAREFULLY TIE PULL-CORD
SECURELY TO SPRING.**

SIMULATOR IS NOW ARMED

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DUD - SEE PAGE 24.

U
AR 5271

DON'TS

DON'T USE SIMULATOR WITH POWDER LEAKAGE.

DON'T USE SIMULATOR WITH SAFETY FUSE PULLED OUT OF SIMULATOR.

DON'T USE SIMULATOR WITH SAFETY CLIP MISSING OR OUT OF POSITION.

THE ABOVE AND OTHERWISE DEFECTIVE SIMULATORS SHOULD BE FORWARDED TO AUTHORIZED DISPOSAL PERSONNEL

WARNINGS

THE M115A2 GROUND BURST PROJECTILE SIMULATOR IS MORE POWERFUL THAN THE M1 16A1 HAND GRENADE SIMULATOR. IT IS NOT TO BE USED NEAR PERSONNEL DUE TO POTENTIAL HAZARD FROM FRAGMENTATION. DO NOT THROW M115A2 SIMULATORS WITHIN 35 METERS OF UNPROTECTED PERSONNEL. WHEN USING THE M1 15A2 SIMULATOR, THE THROWER SHOULD TURN AWAY FROM THE SIMULATOR AND GET INTO A PROTECTIVE STANCE AFTER THROWING. THE SAFETY RADIUS OF THE M1 16A1 SIMULATOR IS 15 METERS.

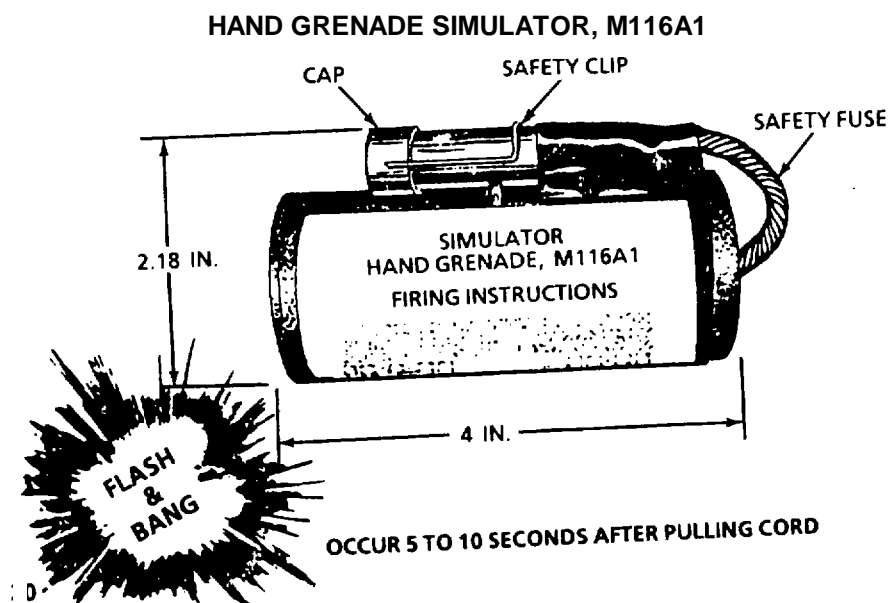
DO NOT WAIT FOR WHISTLE BEFORE THROWING M 115A2 SIMULATOR.

DO NOT PICK UP ANY SIMULATOR DROPPED AFTER PULL CORD HAS BEEN PULLED.

BEFORE FIRING, READ INSTRUCTIONS ON ITEM. WEAR STANDARD ISSUE LEATHER GLOVE ON FIRING HAND.

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DESCRIPTION



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OPERATION

HAND GRENADE SIMULATOR, M116A1

UNPACK

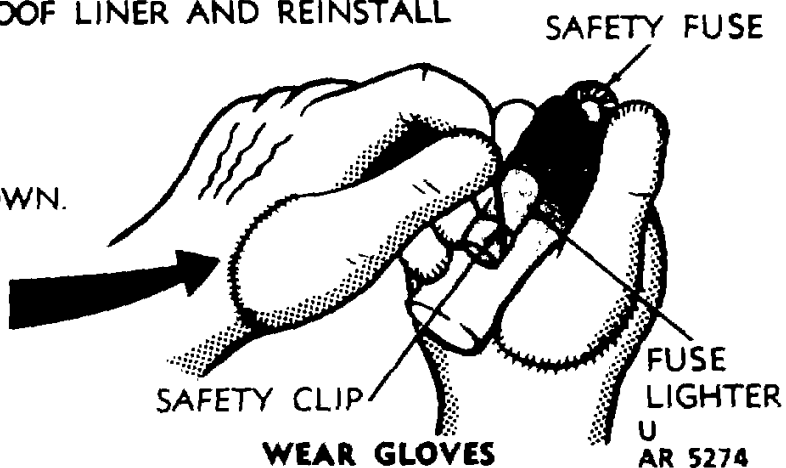
- 1 REMOVE COVER FROM PACKING BOX AND CAREFULLY OPEN WATERPROOF LINING (LINING MUST BE RESEALED).
- 2 REMOVE DESIRED NUMBER OF SIMULATORS.
- 3 BALANCE REMAINING SIMULATORS IN BOX BY INSERTING FILLER MATERIAL.

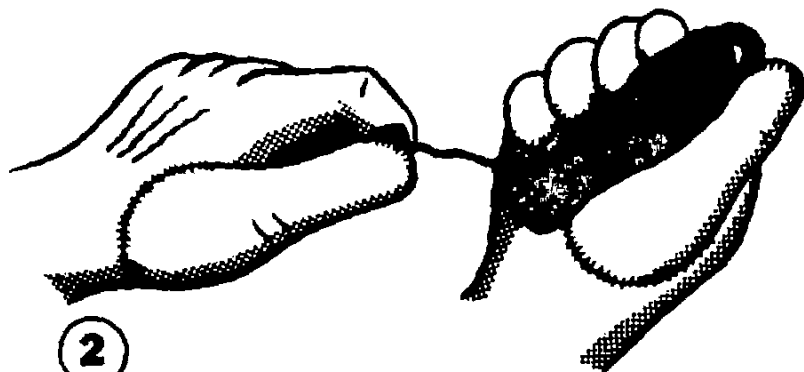
4 CAREFULLY REFOLD WATERPROOF LINER AND REINSTALL BOX COVER.

TO THROW ..

FOLLOW LABEL AS SHOWN.

- 1 REMOVE SAFETY CLIP FROM FUSE LIGHTER.





2

GRASP SIMULATOR IN THROWING HAND.
CAREFULLY REMOVE CAP UNTIL
 FREE OF IGNITER AND CORD IS
 PARTIALLY EXTENDED.



3

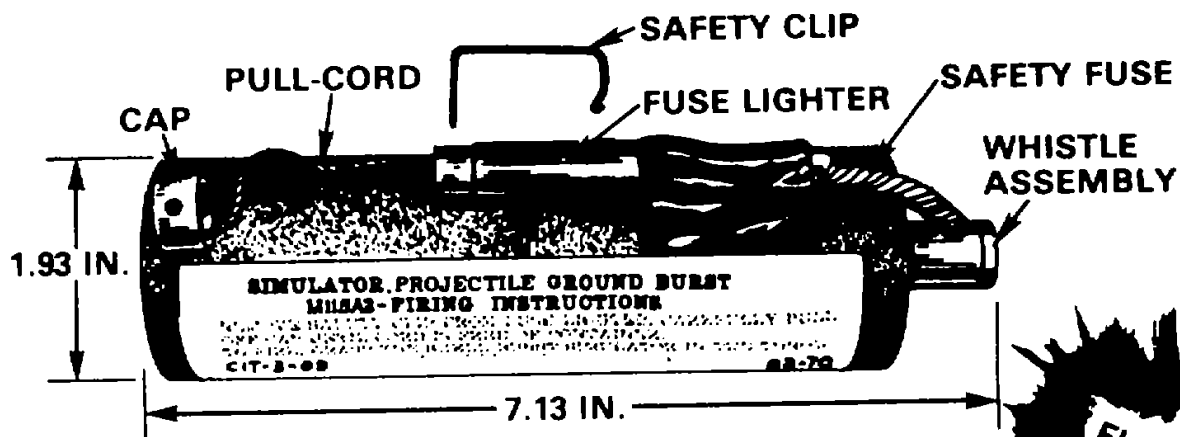
ASSUME THROWING POSITION. **JERK** THE PULL-CORD
 ONCE, **THEN THROW IMMEDIATELY.**

D U D -DO NOT TOUCH THE DUD!
 MARK LOCATION OF DUD FOR EOD PERSONNEL.
 CALL EOD FOR OISPOSAL.

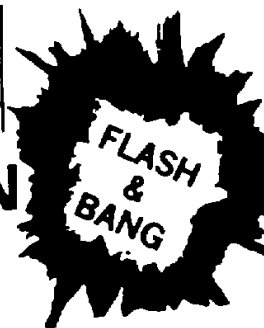
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DESCRIPTION

GROUND BURST SIMULATOR, M115A2



WHISTLE STARTS 6 TO 10 SECONDS AFTER PULLING CORD AND LASTS 2 TO 4 SECONDS **THEN**

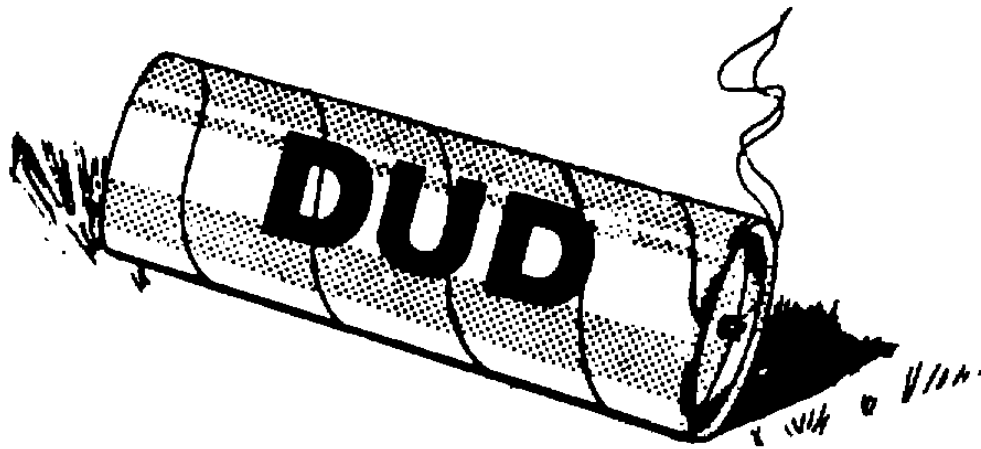


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OPERATION

* SAME AS HAND GRENADE SIMULATOR M116A1.

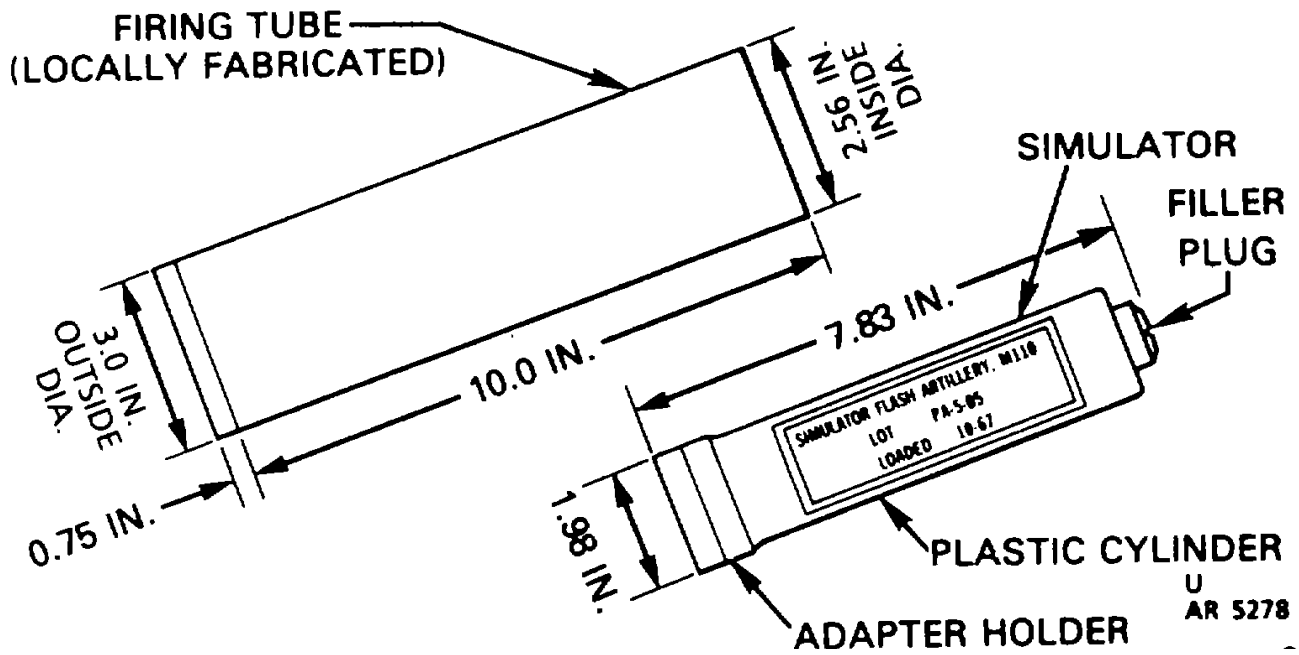
DUD - SEE PAGE 24.



WAIT 30 MINUTES

DO NOT TOUCH THE DUD!
MARK LOCATION OF DUD FOR EOD PERSONNEL.
CALL EOD FOR DISPOSAL.

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AR 5278

WARNING
DO NOT PULL ON LEAD WIRES. PULLING ON WIRES INITIATES SIMULATOR.

DUD - WAIT 30 SECONDS.

- (1) DISCONNECT BOTH EXTENSION WIRES FROM TERMINALS OF STORAGE BATTERY.
- (2) CHECK BATTERY.
- (3) IF BATTERY IS FOUND TO BE FAULTY, SUBSTITUTE GOOD BATTERY AND TRY AGAIN.
- (4) IF SIMULATOR STILL DOES NOT FUNCTION, DISCONNECT EXTENSION WIRES FROM TERMINALS OF BATTERY.

WAIT 30 MINUTES.

- (1) REMOVE SIMULATOR FROM FIRING TUBE. U
- (2) DISCONNECT SQUIB FROM SIMULATOR. AR 5279
- (3) DO NOT TOUCH THE DUD! MARK LOCATION OF DUD FOR EOD PERSONNEL. CALL EOD FOR DISPOSAL.

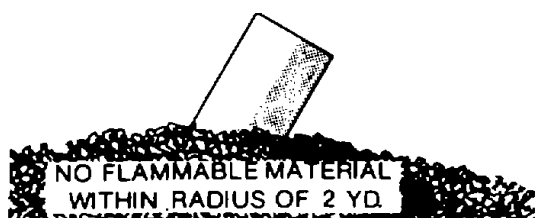
PREPARED FOR FIRING,

BUT NOT FIRED

- (1) DISCONNECT BOTH EXTENSION WIRES FROM TERMINALS OF STORAGE BATTERY.
- (2) REMOVE SIMULATOR FROM FIRING TUBE.
- (3) DISCONNECT SQUIB FROM SIMULATOR.
- (4) MARK LOCATION FOR EOD PERSONNEL. CALL EOD FOR DISPOSAL.

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AR 5280

OPERATION

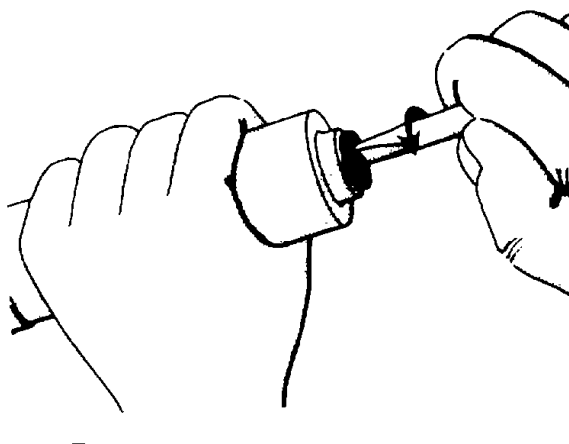


① IMBED FABRICATED FIRING TUBE IN GROUND OR DOUBLE THICKNESS OF SANDBAGS WITH TUBE PROTRUDING ABOUT 4 INCHES.

② REMOVE SIMULATOR FROM FIBER CONTAINER AND INSPECT FOR BROKEN, CRACKED, OR OTHERWISE

DAMAGED SIMULATORS
THAT SHOW EVIDENCE OF
28 NOT BEING WATERTIGHT.

(3) CONNECT TERMINAL OF EACH 4-FOOT LEAD WIRE TO AN UNCONNECTED 50-YARD EXTENSION WIRE.



(4) REMOVE FILLER PLUG FROM FILLER HOLE

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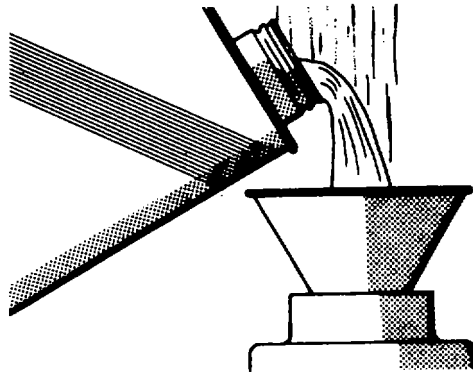
WARNING

WHEN HANDLING GASOLINE, OBSERVE PRECAUTIONS IN FM 10-69.

FILL ONLY AS MANY SIMULATORS AS WILL BE FIRED DURING DAY'S TRAINING.

**FOR SIMULATORS THAT LEAK GASOLINE, DO NOT TOUCH THE DUD!
MARK LOCATION OF DUD FOR EOD**

PERSONNEL. CALL EOD FOR DISPOSAL.

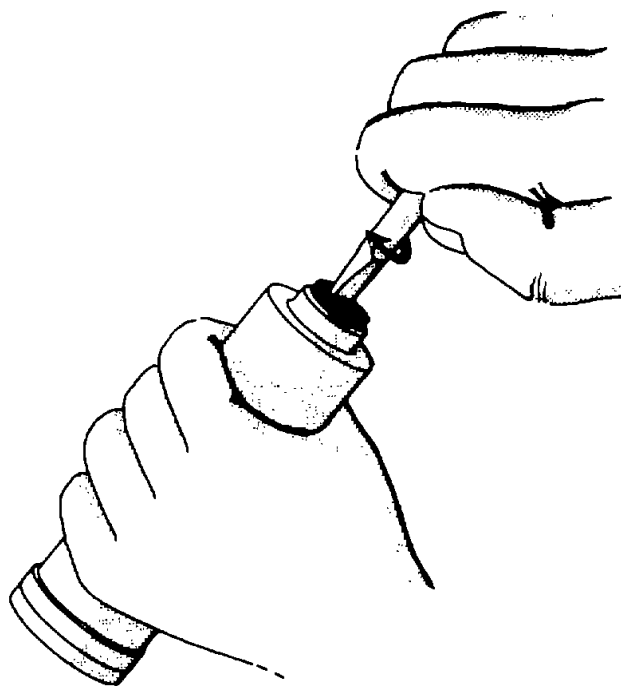


- ⑤ POUR 2.4 OUNCES LIQUID
MEASURE OF AT LEAST
80 OCTANE GASOLINE
INTO FILLER HOLE.**

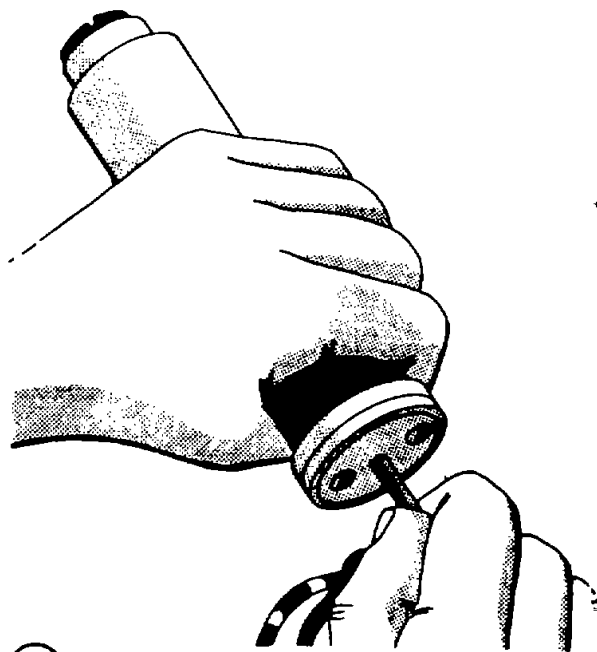
NOTE

GASOLINE LEVEL SHOULD REACH BOTTOM OF THREADS INSIDE OF FILLER HOLE.

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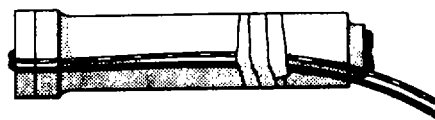
⑥ SCREW FILLER PLUG BACK INTO FILLER HOLE.



⑦ JUST PRIOR TO FIRING, INSERT ELECTRIC SQUIB INTO HOLE IN BOTTOM OF SIMULATOR

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AR 5283

- (8) CARRY LEAD WIRES OF SELECTRIC SQUIB ACROSS BOTTOM AND UPWARDS ALONG BODY OF SIMULATOR TOWARD RED FILLER PLUG, AND ATTACH TO BODY.



NOTE
BEFORE LOADING, MAKE SURE
FIRING TUBE IS CLEAN OF ALL
RESIDUE.

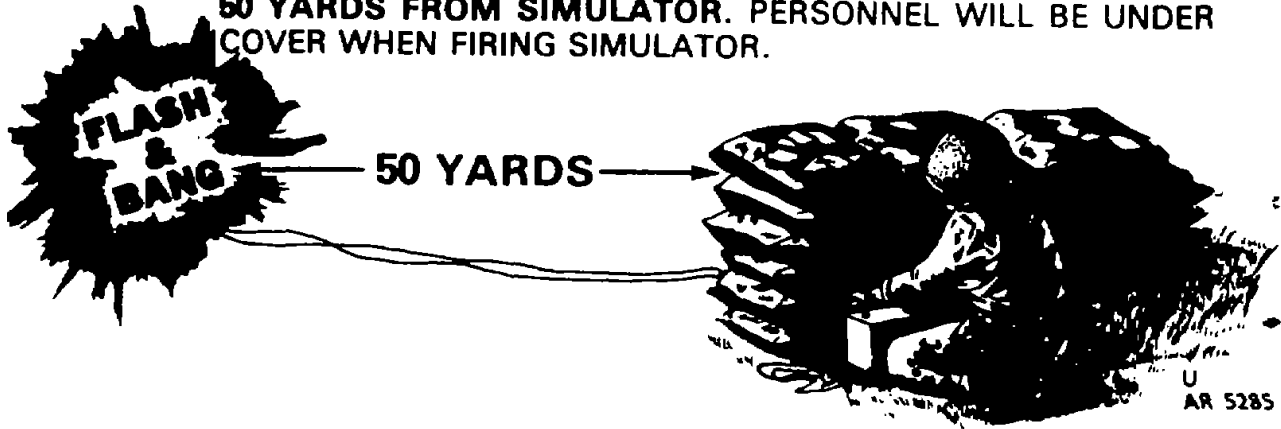
- (9) PLACE SIMULATOR IN FIRING TUBE, FILLER-PLUG END UP, LEAD WIRES EMERGING FROM SPACE BETWEEN SIMULATOR AND FIRING TUBE

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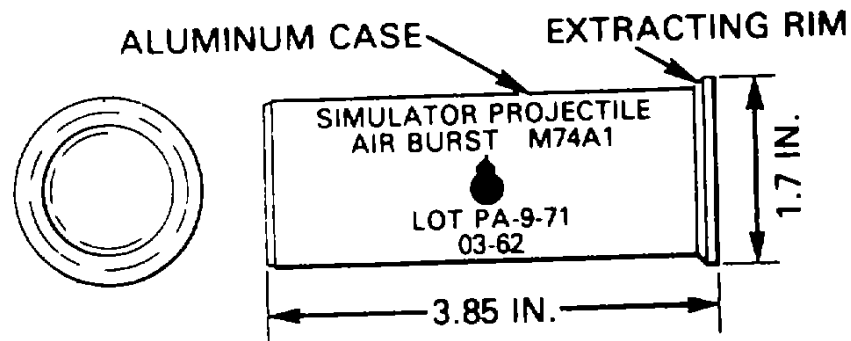
WARNING

TO PREVENT INJURIES FROM FLYING SPARKS AND SPLINTERS AT TIME OF FIRING, ALL PERSONNEL 50 YARDS OR LESS FROM FIRING TUBE WILL BE UNDER COVER.

- 10** LAY OUT EXTENSION WIRES AND CONNECT TO TERMINALS OF STORAGE BATTERY, ASSURING THAT BATTERY IS **AT LEAST 50 YARDS FROM SIMULATOR**. PERSONNEL WILL BE UNDER COVER WHEN FIRING SIMULATOR.



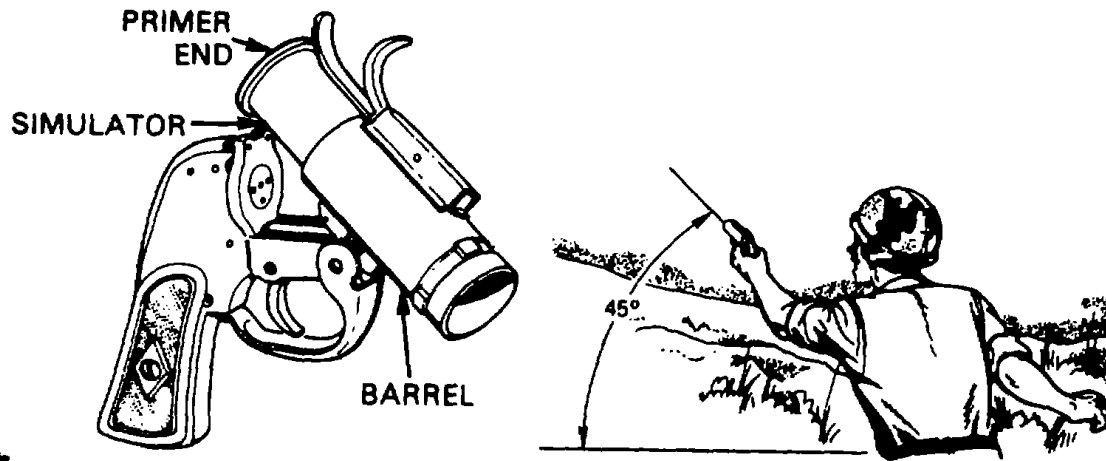
AIR BURST PROJECTILE SIMULATORS M74 and M74A1



- (A) 2- TO 3-SECOND DELAY.
- (B) 600,000 CANDLEPOWER.
- (C) SIMULATES ARTILLERY FIRE AIR BURSTS.
- (D) FIRED FROM PYROTECHNIC PISTOL AN-MB.

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AR 5286

OPERATION



- (1) WEAR ISSUED GLOVES (ON BOTH HANDS), EYE PROTECTION, EAR PLUS, AND HELMET
- (2) IF WORN, DISCONNECT LANYARD FROM PISTOL
- (3) OPEN BARREL OF PISTOL
- (4) INSERT SIMULATOR INTO BARREL, WITH PRIMER END TOWARD FIRING PIN.
- (5) CLOSE BARREL
- (6) FIRE AT ARM'B LENGTH AT AN UPWARD ANGLE OF 45 DEGREES.

Change 1 34

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WARNING

WAIT 30 SECONDS.

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AR 5288

- (1) IF MISFIRE AFTER 2 SECONDS, PULL TRIGGER AGAIN.
- (2) IF STILL MISFIRES, AIM PISTOL OVERHEAD KEEPING ARM FULLY EXTENDED AND HEAD TURNED AWAY. WAIT 30 SECONDS.
- (3) MANUALLY REMOVE SIMULATOR FROM PISTOL.
- (4) PLACE TAPE ON PRIMER END.
- (5) PLACE MISFIRED ROUND IN A LOCALLY APPROVED EMPTY CONTAINER FOR TRANSPORTING TO DISPOSAL PERSONNEL.
- (6) IF DUD, DO NOT TOUCH THE DUDI MARK LOCATION OF DUD FOR EOD PERSONNEL. CALL EOD FOR DISPOSAL.

35 (36 BLANK)

ATOMIC EXPLOSION SIMULATOR M142

WARNINGS

OPERATING PERSONNEL WILL REMAIN BEHIND SHRAPNEL-PROOF WALL
NO CLOSER THAN **150 FEET** TO POINT OF DETONATION. OBSERVERS
WILL REMAIN NO CLOSER THAN **450 FEET** TO
POINT OF DETONATION.

DO NOT LEAVE SOUND-UNIT OR SMOKE-UNIT IN STEEL
DRUM WHEN SIMULATOR IS TO BE FUNCTIONED.

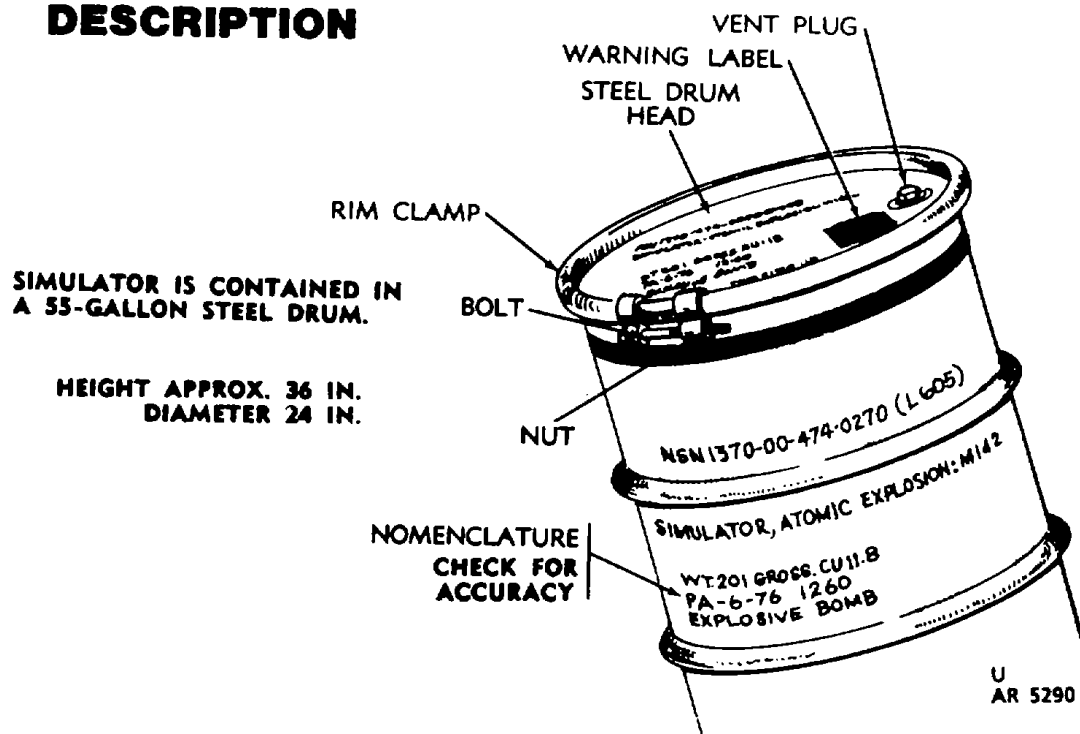
DO **NOT** APPROACH SIMULATOR WHICH HAS FAILED TO FIRE
FOR AT LEAST **30 MINUTES** AFTER DISCONNECTING POWER SOURCE.

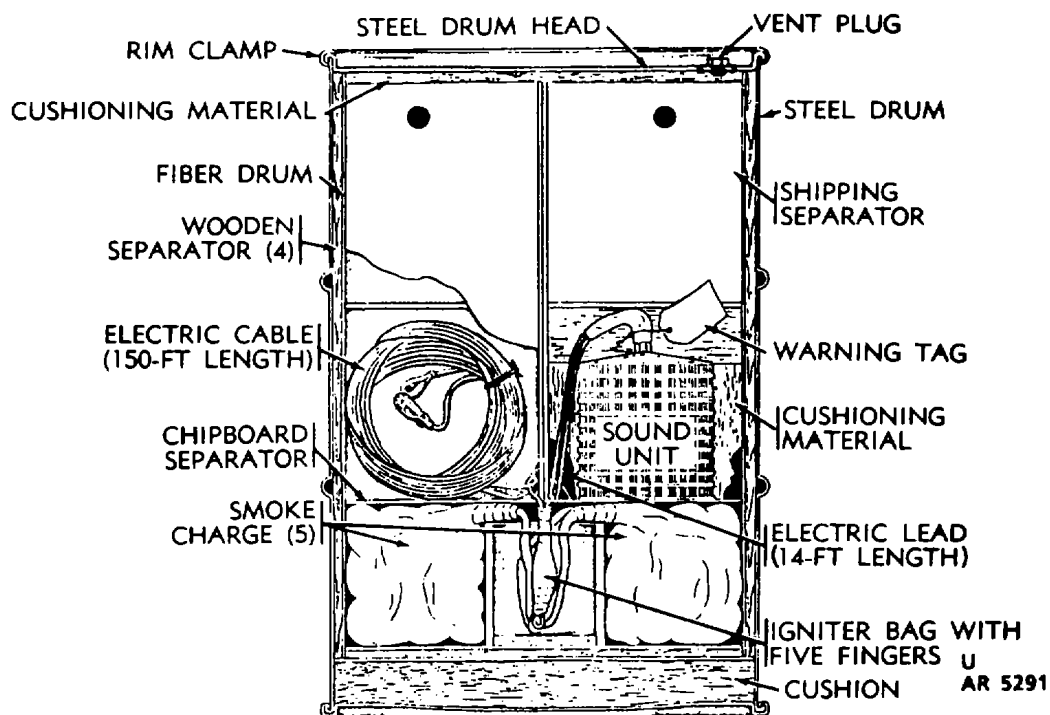
DO NOT USE POWER SOURCE OTHER THAN FULLY CHARGED
12- OR 24- VOLT BATTERY.

EXTENSION WIRE (i.e., FIRING WIRE, AMMO WIRE) IS **NOT** TO BE
USED WHEN FUNCTIONING SIMULATOR.

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DESCRIPTION

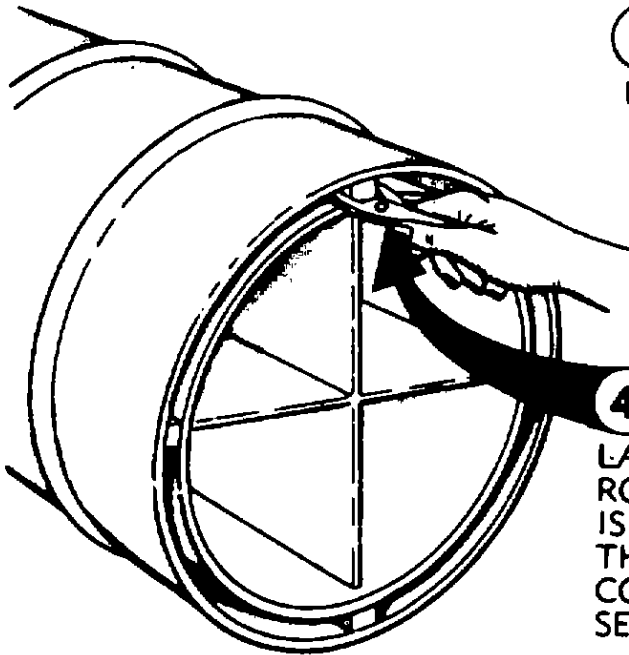




OPERATION

(1)

SELECT A LEVEL FIRING SITE WITH NO OVERHEAD OBSTRUCTIONS, LOOSE ROCKS, OR ANY OTHER OBJECTS WITHIN 5 FEET. THIS SITE MUST BE APPROXIMATELY 140 FEET DOWNWIND OF OPERATOR'S BARRICADE.



2

UNSCREW VENT PLUG UNTIL VACUUM IS RELEASED.

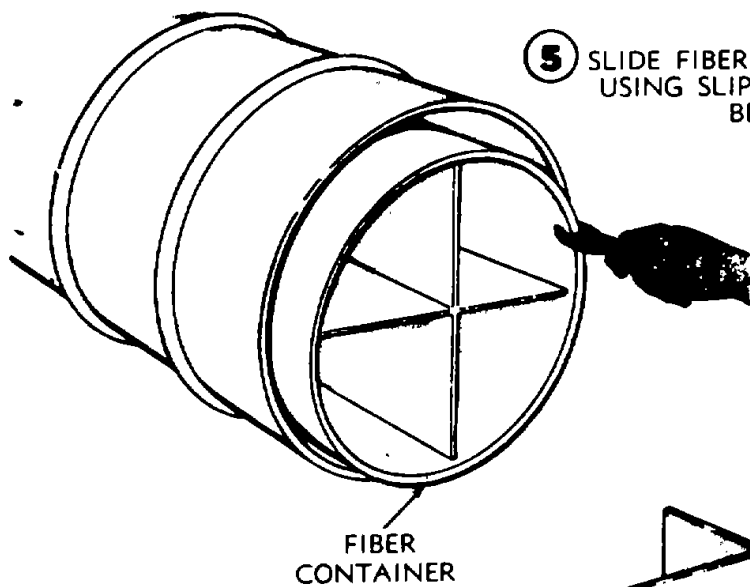
3

REMOVE NUT, BOLT, RIM CLAMP, STEEL DRUM HEAD, AND CUSHIONING MATERIAL FROM DRUM.

4

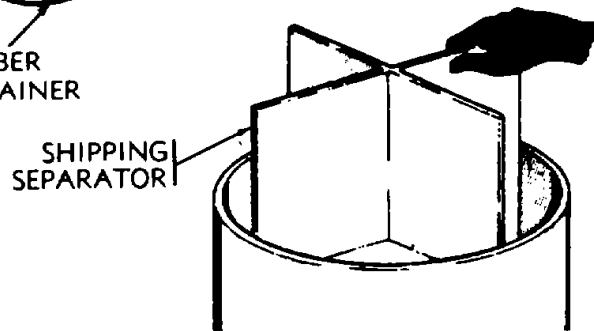
LAY STEEL DRUM ON ITS SIDE AND ROTATE UNTIL A WOODEN SEPARATOR IS IN AN UPPER POSITION. REMOVE THE SEPARATOR WITH SLIP PLIERS. CONTINUE THIS OPERATION UNTIL ALL SEPARATORS ARE REMOVED.

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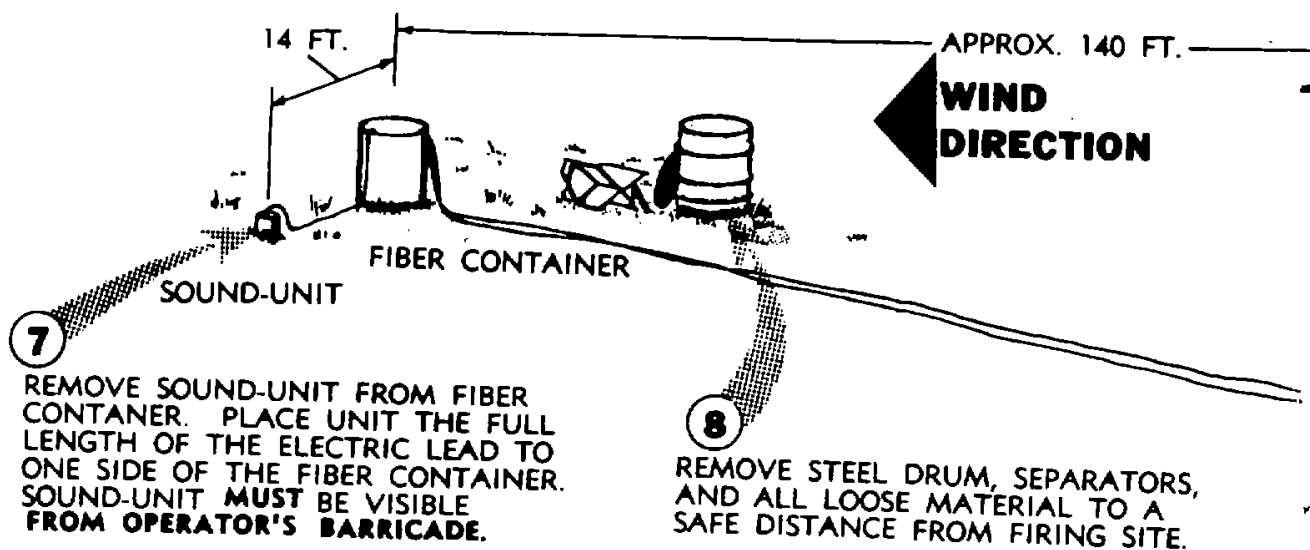


- ⑤ SLIDE FIBER CONTAINER FROM STEEL DRUM USING SLIP PLIERS UNTIL CONTAINER CAN BE GRIPPED FIRMLY WITH HANDS. REMOVE THE FIBER CONTAINER COMPLETELY AND CAREFULLY. STAND IT UPRIGHT.

- ⑥ REMOVE CARDBOARD SHIPPING SEPARATOR.



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IF UNPACKED AND SET UP FOR FIRING, BUT NOT FIRED (STEP 10), REPACK BY REVERSING STEPS 2 THROUGH 9.

- ⑩ CONNECT ONE ALLIGATOR CLIP AT END OF CABLE TO A TERMINAL OF STORAGE BATTERY. THEN FIRE SIMULATOR BY CONNECTING SECOND CLIP TO OTHER TERMINAL OF BATTERY.

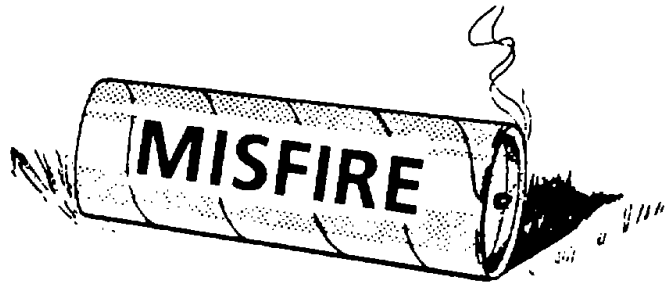
- ⑨ EXTEND ELECTRICAL CABLE TO REAR OF BARRICADE.



- ⑪ FIRING IS NOT COMPLETE UNLESS OPERATING PERSONNEL CAN OBSERVE THAT SOUND-UNIT HAS BEEN DESTROYED.

IF SOUND-UNIT IS NOT DESTROYED, TREAT FIRING AS MISFIRE.
SEE PAGE 44

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- 1 DISCONNECT LEAD WIRES FROM TERMINALS OF STORAGE BATTERY.
- 2 CHECK BATTERY.
- 3 IF BATTERY IS FOUND TO BE FAULTY, SUBSTITUTE GOOD BATTERY AND TRY AGAIN.
- 4 IF SIMULATOR STILL DOES NOT FUNCTION, DISCONNECT LEAD WIRES FROM TERMINALS OF BATTERY.

WAIT 30 MINUTES

- 5 REPACK SOUND-UNIT AND ELECTRIC CABLE AND FORWARD DEFECTIVE SIMULATOR TO THE AMMUNITION SUPPLY POINT.

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**SIMULATORS USED
IN OTHER SYSTEMS**

SECTION (7)

ARTILLERY FLASH SIMULATOR M21

THE M21 SIMULATOR IS A PLASTIC CONTAINER WITH OVER AN OUNCE OF FLASH POWDER AND IS ELECTRICALLY INITIATED. THE M21 SIMULATOR IS USED TO SIMULATE MAIN GUN TANK FIRE. REFER TO THE FOLLOWING MULTIPLE INTEGRATED LASER ENGAGEMENT SYSTEM (MILES) OPERATION'S MANUALS:

TM 9-1265-369-10-1 FOR M60A1/A3 TANKS

TM 9-1265-373-10-1 FOR M1 TANK

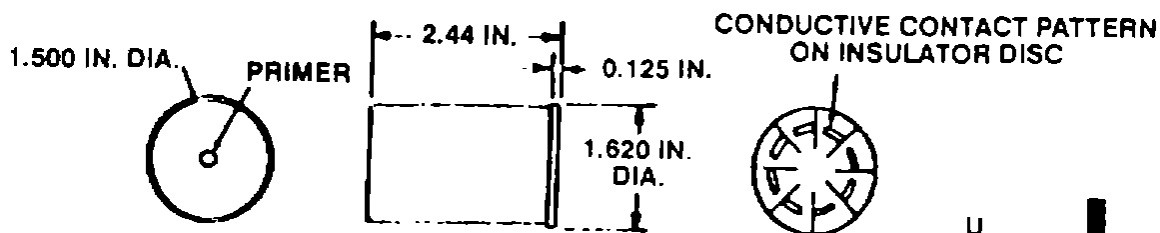


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ANTI-TANK WEAPONS EFFECT SIGNATURE SIMULATOR (ATWESS) M22

THE ATWESS SIMULATOR RESEMBLES A SHOTGUN-SHAPED CARTRIDGE WHICH MAKES ELECTRICAL CONTACT WITH THE FIRING DEVICE THROUGH A COPPER RING IN ONE END AND IS INITIATED BY A PERCUSSION PRIMER IN THE OTHER END. IT IS USED WITH THE MULTIPLE INTEGRATED LASER ENGAGEMENT SYSTEM (MILES) IN VARIOUS WEAPONS TO GIVE A REPORT WITH FLASH AND SMOKE. REFER TO THE FOLLOWING OPERATOR'S MANUALS:

TM 9-1265-208-10 FOR CHAPARRAL
TM 9-1265-209-10 FOR STINGER
TM 9-1265-368-10-1 FOR DRAGON
TM 9-1265-368-10-2 FOR TOW
TM 9-1265-368-10-3 FOR VIPER
TM 9-1270-223-10 FOR AH-1S HELICOPTER



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MAINTENANCE

**OPERATOR
LEVEL**

**ALL REPACKING SHOULD
BE WATERPROOF, TIGHT,
AND CLEARLY MARKED**

CHAPTER III. MAINTENANCE(OPERATOR LEVEL)

UNUSED ITEMS SHOULD BE TURNED IN TO AMMUNITION SUPPORT
AREA AS SOON AS POSSIBLE. PROVIDE
PROTECTION FOR THESE ITEMS BY REPACKING IN ORIGINAL
CONTAINERS, IF AVAILABLE, OR EQUIVALENT IMPROVED
PACKING. ALL EFFORTS MUST BE MADE TO GET THESE
ITEMS TO ORGANIZATIONAL MAINTENANCE IN THE BEST POSSIBLE
CONDITION.

**AVOID EXPOSURE TO
MOISTURE, DENTS, ETC.**

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Change 3 47 (48 BLANK)

To report errors
and omissions or
to suggest improvements

PLEASE WRITE

COMMANDER

USA ARDEC

ATTN: SMCAR-LSB

Picatinny Arsenal, NJ 07806-5000

USE FORM DA 2028

WE NEED TO KNOW



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AR 5298-A

MALFUNCTION REPORTS--SUBMIT MALFUNCTION REPORTS
IN ACCORDANCE WITH AR 75-1

Change 3 49 (50 BLANK)

*GPO : 1996 - 406-421 (50069)

PYROTECHNIC SIMULATORS

By Order of the Secretary of the Army:

Official:


CARL E. VUONO
General, United States Army
Chief of Staff

THOMAS F. SIKORA
Brigadier General, United States Army
The Adjutant General

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AR 5299

DISTRIBUTION: To be distributed in accordance with DA Form 12-40-E, block 0722,
Operator Maintenance requirements for Pyrotechnics.

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 <div style="border: 1px solid black; border-radius: 15px; padding: 10px; margin: 10px auto; width: 200px;"> <p style="margin: 0;"><i>THEN...JOT DOWN THE DOPE ABOUT IT ON THIS FORM. CAREFULLY TEAR IT OUT, FOLD IT AND DROP IT IN THE MAIL.</i></p> </div>		SOMETHING WRONG WITH PUBLICATION									
		FROM: (PRINT YOUR UNIT'S COMPLETE ADDRESS)									
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PUBLICATION DATE		PUBLICATION TITLE									
<div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <p style="margin: 0; font-weight: bold;">BE EXACT PIN-POINT WHERE IT IS</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="padding: 5px;">PAGE NO.</th> <th style="padding: 5px;">PARA-GRAPH</th> <th style="padding: 5px;">FIGURE NO.</th> <th style="padding: 5px;">TABLE NO.</th> </tr> <tr><td style="height: 500px;"></td><td></td><td></td><td></td></tr> </table> </div> <div style="width: 65%;"> <p style="margin: 0; font-weight: bold;">IN THIS SPACE, TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT.</p> <div style="border: 1px solid black; height: 450px; margin-top: 10px;"></div> </div> </div>				PAGE NO.	PARA-GRAPH	FIGURE NO.	TABLE NO.				
PAGE NO.	PARA-GRAPH	FIGURE NO.	TABLE NO.								
PRINTED NAME, GRADE OR TITLE AND TELEPHONE NUMBER		SIGN HERE									

DA FORM 1 JUL 79 **2028-2**

PREVIOUS EDITIONS ARE OBSOLETE.

P.S.--IF YOUR OUTFIT WANTS TO KNOW ABOUT YOUR RECOMMENDATION MAKE A CARBON COPY OF THIS AND GIVE IT TO YOUR HEADQUARTERS.

The Metric System and Equivalents

Linear Measure

1 centimeter = 10 millimeters = .39 inch
 1 decimeter = 10 centimeters = 3.94 inches
 1 meter = 10 decimeters = 39.37 inches
 1 dekameter = 10 meters = 32.8 feet
 1 hectometer = 10 dekameters = 328.08 feet
 1 kilometer = 10 hectometers = 3,280.8 feet

Weights

1 centigram = 10 milligrams = .15 grain
 1 decigram = 10 centigrams = 1.54 grains
 1 gram = 10 decigrams = .035 ounce
 1 decagram = 10 grams = .35 ounce
 1 hectogram = 10 decagrams = 3.52 ounces
 1 kilogram = 10 hectograms = 2.2 pounds
 1 quintal = 100 kilograms = 220.46 pounds
 1 metric ton = 10 quintals = 1.1 short tons

Liquid Measure

1 centiliter = 10 milliliters = .34 fl. ounce
 1 deciliter = 10 centiliters = 3.38 fl. ounces
 1 liter = 10 deciliters = 33.81 fl. ounces
 1 dekaliter = 10 liters = 2.64 gallons
 1 hectoliter = 10 dekaliters = 26.42 gallons
 1 kiloliter = 10 hectoliters = 264.18 gallons

Square Measure

1 sq. centimeter = 100 sq. millimeters = .155 sq. inch
 1 sq. decimeter = 100 sq. centimeters = 15.5 sq. inches
 1 sq. meter (centare) = 100 sq. decimeters = 10.76 sq. feet
 1 sq. dekameter (are) = 100 sq. meters = 1,076.4 sq. feet
 1 sq. hectometer (hectare) = 100 sq. dekameters = 2.47 acres
 1 sq. kilometer = 100 sq. hectometers = .386 sq. mile

Cubic Measure

1 cu. centimeter = 1000 cu. millimeters = .06 cu. inch
 1 cu. decimeter = 1000 cu. centimeters = 61.02 cu. inches
 1 cu. meter = 1000 cu. decimeters = 35.31 cu. feet

Approximate Conversion Factors

<i>To change</i>	<i>To</i>	<i>Multiply by</i>	<i>To change</i>	<i>To</i>	<i>Multiply by</i>
inches	centimeters	2.540	ounce-inches	Newton-meters	.007062
feet	meters	.305	centimeters	inches	.394
yards	meters	.914	meters	feet	3.280
miles	kilometers	1.609	meters	yards	1.094
square inches	square centimeters	6.451	kilometers	miles	.621
square feet	square meters	.093	square centimeters	square inches	.155
square yards	square meters	.836	square meters	square feet	10.764
square miles	square kilometers	2.590	square meters	square yards	1.196
acres	square hectometers	.405	square kilometers	square miles	.386
cubic feet	cubic meters	.028	square hectometers	acres	2.471
cubic yards	cubic meters	.765	cubic meters	cubic feet	35.315
fluid ounces	milliliters	29.573	cubic meters	cubic yards	1.308
pints	liters	.473	milliliters	fluid ounces	.034
quarts	liters	.946	liters	pints	2.113
gallons	liters	3.785	liters	quarts	1.057
ounces	grams	28.349	liters	gallons	.264
pounds	kilograms	.454	grams	ounces	.035
short tons	metric tons	.907	kilograms	pounds	2.205
pound-feet	Newton-meters	1.356	metric tons	short tons	1.102
pound-inches	Newton-meters	.11296			

Temperature (Exact)

°F	Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	°C
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